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August 1, 2002

Secretary
Federal Communications Commission
Washington DC 20554

Re: ET Docket No. 95-18, Mobile Satellite Services

Gentlemen:

The attached data sheets describe the Strata transmitter and receiver units developed by Microwave Radio Communications for use by broadcasters. This information was requested following the June 18 meeting with Anthony Finizio, President of Microwave Radio Communications.

Sincerely,

Jeffrey Krauss

STRATA

TXU

FEATURES

- ■ Portable, Compact, and Lightweight
- ■ Tripod or Rack Mountable (1 RU Half Width)
- ■ Ideal for Motorcycle, Mobile, or Airborne Applications
- ■ Integrates with STRATA Transmitter Control Unit (TCU) and STRATA High Power Unit (HPU)
- ■ Bands from 2 to 15 GHz
- ■ Standalone or Pre-Configured Models:
  TXU – Basic RF Unit with 70MHz Input
  TXU–F – Basic RF Unit with FMT Modulator
- ■ Auto Sensing Input for RF, 70 MHz IF Input
- ■ Local Control from Front Panel LCD using Single Rotary/Push Button Switch
- ■ RS-232 Remote Control from Laptop or PC with Device Manager Software (DMS)
- ■ Multiple Programmable Presets

The STRATA Transmitter Unit (TXU) is a versatile portable transmitter for taking direct input from the camera, or from an external data source. The TXU's advanced design autosenses input from RF or a 70 MHz IF input.

The TXU can function as a stand alone unit or as part of an integrated solution when used with the STRATA Transmitter Control Unit (TCU) and the STRATA High Power Unit (HPU).

STRATA offers several solutions for local and remote operation. For local control, use the Front Panel LCD and a single combination Push Button/Rotary Switch. For remote control of one or more units, plug into the RS-232 port from a Laptop or PC and use the Device Manager Software (DMS) .

The TXU's standard "N" type RF connector provides for cabled or direct mounted antennas. The optional Twist Lock Adapter mounts over the RF connector to accept a variety of MRC's Parabolic and MegaHorn antennas.

MICROWAVE RADIO
COMMUNICATIONS

TXU SPECIFICATIONS

Signal inputs:.................................... Composite Video, NTSC/PAL
Built in AGC/Cable Equalization circuitry and auto sense
Signal outputs:................................. 2-15 GHz, 50 ohm – Type N
Output Power (2 GHz): .... 2 GHz - Analog +33 dbm,
QPSK +31 dbm, 16QAM +30 dbm
Audio Inputs: .... Four frequency agile audio subcarriers
(4) channels, dual mono, dual stereo
Power Consumption: .... 24 watts
DC Input Voltage Range: .... +11 to +48 Vdc
Subcarrier tuning range: .... 4.6 MHz - 8.59 MHz
agile by 2 KHz tuning step size
FM deviation adjustment: .... 3 MHz and 4 MHz - peak
(Local and remote serial control)
Input video detection monitor:................................ Serial monitor
Video invert/non-invert:.................................. Jumper selectable
Video mute - on/off:............................ Serial control - front panel
70 MHz IF output squelch: .... Serial control - front panel
Video pre-emphasis (525/625/flat): .... Internal jumper selectable
Audio pre-emphasis (50 us/75 us):.......... Internal jumper selectable

FRONT PANEL CONTROL

Preset Selection: Video Bit Rate, Chroma/Profile, SDI or Composite,
Channel Enable/Disable, Transport Stream Output Bit Rate, Test
Pattern On/Off, Manual, Auto
Audio Selection: Analog/Digital

DEVICE MANAGER (DMS)

(Control parameters in addition to front panel controls)
Latency Setting, Service Name, Control/Monitor/ID

ANTENNA OPTIONS

OmniDirectional Antenna
MegaHorn
Parabolic Dish – 2ft
Parabolic Dish – 4ft
Twist Lock Adapter (Omnidirectional or Parabolic)

CONNECTIONS, CONTROLS, AND INDICATORS

Signal Input:.. TNC/BNC
DC Power & RS-485 Remote: .... 8–Pin Circular Connector
Audio Input:..10 Pin Circular Connector
RS-232 Communication Port:......................... 9–Pin "D" Connector
RF Output:... "N" Type Connector
All controls:...Push/Rotary Switch
LED Indicators:................. Power ON/OFF, Transmit (XMIT) ON/OFF
Power Switch (On/Off):................................... SPST Toggle Switch

POWER REQUIREMENTS

Input:.. +10.5 to +48 Vdc
(Separate AC to DC Power Converter Available)
Power connector:.. 8-Pin circular
Power consumption: 24W
(Separate AC to DC power module available)

DEVICE MANAGER REQUIREMENTS

IBM PC Compatible with RS–232 serial port
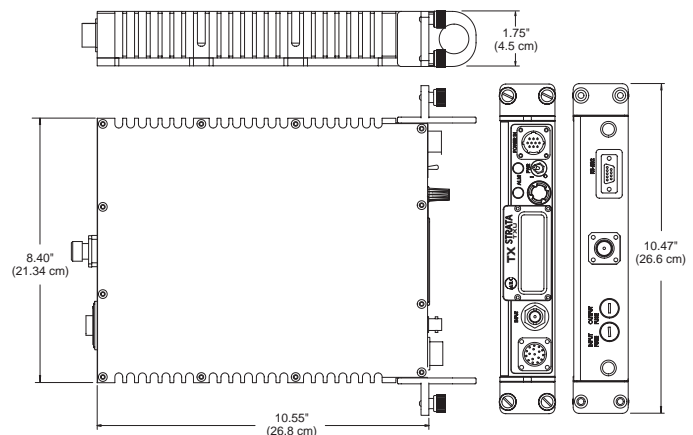Windows 95 Operating System or Higher

PHYSICAL

Dimensions (without mounting brackets)
Height:..................................... 1.75" (4.5 cm), 8.4" (21.34 cm),
10.55" (28.8 cm)
Weight:... 7.0 lbs (3.2 kg)
Operating Temperature Range: .... –20° C to +50° C
Operating Relative Humidity: .... 95% @+10° C to +40° C
Operating Altitude:..... 15,000 feet above sea level (13,500 meters)

ACCESSORIES

AC to DC Power Converter (100 to 230 Vac)

ANALOG AUDIO & VIDEO MODULATOR

Signal Outputs: .... TNC/BNC - DC, 70 MHz signal/pass thru
Level output:.. +2 dbm Analog
Impedence:... 75 ohms
Auto detects signal inputs: .... Video, Composite/SDI,
ASI, 70 MHz (–10 dbm Analog/Digital)
Video Mute:... 70 MHz test tone - auto
FM Deviation (Selectable):............. Local and Remote serial control
3 MHz and 4 MHz - peak
Video Input: .... 1 Vpp (75 ohms) 525/625 line
Return Loss:.. > 26 db
Plug in Video Filter Options:.............. 4.2 MHz, 5.0 MHz, 5.5 MHz
Video response: .... +/- .25 db @ or within video filter bandwidth
Video Performance:
S/N: .... (2/7 GHz) > 68 db (weighted per RS-250C)
S/H: .... (2/7 GHz) > 63 db (weighted per RS-250C)
Diff. Phase: .... 1 degree
Diff. Gain:... 1 %
Baseband Response: .... 10 KHz-8 MHz +0.5 db
8 MHz- 12 MHz <2db
Audio Channels:... 4 Channel Analog
Line level: +8 dbm (600 ohms) - circular conn.
Subcarrier input tune range:......................... 4.5 MHz - 8.59 MHz
tunable in 2 KHz steps (local/serial control)
Audio Performance:
Frequency Response: .... (40 Hz - 15 KHz):............... +/- 1.0 db
(40 Hz - 10 KHz):.............. +/- 0.5 db
THD: ....0.5 % @ 1 KHz (75 KHz deviation)
2.0 % @ 1 KHz (200 KHz deviation)
Signal/Noise:.. 68 dbm (min.)
Output Impedence: .... 600 ohms balanced/10K ohms - selectable
Output Level (adjust):.................... + 8 dbm - Line Level - nominal
(0 dbm to + 18 dbm) - Local/serial
Audio channel crosstalk:... 60 db
Emphasis: .... 50 us/75 us, flat - jumper selectable
Control interface: .... 2 wire serial common connector as DC input
Serial Control Parameters: .... Input - video/BB, video level,
audio level, subcarrier tuning - preset select

TRANSMITTER UNIT (TXU) DIMENSIONS

TCU

STRATA

TRANSMITTER CONTROL UNIT

The STRATA Transmitter Control Unit (TCU) is a versatile portable solution providing both analog modulation and digital encoding for taking direct input from the camera, or from an external source.

The TCU comes in several configurations with single or combined features including FM Modulation, MPEG2 Encoding, MPEG with COFDM Modulation, or switchable between MPEG2/COFDM, and FM Modulation.

The TCU can function as a stand alone unit or as part of an integrated solution when used with the STRATA Transmitter Unit (TXU) and the STRATA High Power Unit (HPU).

STRATA offers several solutions local and remote operation. For local control, use the Front Panel LCD and a single combination Push Button/Rotary Switch. For remote control of one or more units, plug into the RS-232 port from a Laptop or PC and use STRATA Device Manager (SDM).

MICROWAVE RADIO
COMMUNICATIONS

MPEG ENCODER SPECIFICATIONS

Video Capability

Serial Digital Input (SDI): .... ANSI/SMPTE 259M Level C 270Mb/s, 525/625 component 2 Stereo Audio De-embedding provided AES/EBU

Composite Video: .... Composite – (75 ohms) 1 Vpp – NTSC or PAL – BNC Return Loss, Minimum 28dB at 6MHz

Chroma/Level (Selectable):4:2:2Profile @ Main Level or 4:2:0 Main Profile @ Main Level

Frame Size: .... Horizontal Res. 720pixels Vertical Res. 480 lines in 525 Line (NTSC) Vertical Res. 576 lines in 625 Line (PAL)

Video Encoding Rate: .... 2 – 30 Mbits, Constant Bit Rate (4:2:2) 1.5 – 15 Mbits, Constant Bit Rate (4:2:0)

Latency (Selectable): .... Standard Mode: < 200 mS Low Delay Mode: <100ms

VBI Processing: .... Extended Picture Mode (4:2:2)

Closed Caption: .... Support for line 21 (NTSC) CC per EIA 608 standard

Audio Coding: ....MPEG–II layer 2 (ISO/IEC 13818-3) ISO/MPEG 11172.3 Layer II (MUSICAM)

Digital Audio Inputs (Configurable): Supports AES/EBU audio inputs (2 pairs) balanced inputs – 48 KHz sampling

Audio Channels (selectable): .... Analog audio (2 stereo pairs), balanced, 600 ohm/600 ohms High Z (selectable)

Min. Audio Bit Rate: ....192 Kbits/channel, 384 Kbits –stereo Lower audio bit rates down to 128 Kbits selectable

Audio Input Levels: ....+18dBm clip level

Transport Stream Output: ....Fully DVB compliant DVB –ASI per ISO/IEC 13818-2 (188 byte packets) - continuous bit rate

Output Monitor Port (ASI, 70 MHz): .... Rear Panel Connector

Control/Monitor: .... RS232, 9-pin D connector via DMS

Data Channel (Asynchronous or RS485): 9600 baud, 19.2 Kbaud, 384 Kbaud

BISS Supported: .... (Basic Interoperable Scrambling System)

Control Parameters: Video input – analog/digital selection, video bit rate, horizontal resolution, delay mode, chroma format, scrambling enable/disable, data channel enable/disable, transport stream output bit rate, test pattern on/off, manual, auto Audio input – analog/digital

COFDM SPECIFICATIONS

COFDM IF Output: .... 70 MHz

COFDM Level Output: .... –10 dbm

COFDM Bandwidth (Selectable): .... 6 MHz, 7 MHz, 8 MHz

COFDM Carriers: .... DVB-T specifications 2K Carriers

Modulation Type: .... QPSK, 16QAM, 64QAM

FEC: 1/2, 2/3, 3/4, 5/6, 7/8

Guard Intervals (Selectable): .... 1/32, 1/16,1/8,1/4 70 MHz Carrier Insert Capability

CONTROLS AND INDICATORS

Signal Input: .... TNC/BNC

DC Power & RS-485 Remote: .... 8–Pin Circular Connector

Audio Input: .... 10-Pin Circular Connector

RS-232 Communication Port: .... 9–Pin "D" Connector

RF Output: .... "N" Type Connector

All controls: .... Push/Rotary Switch

LED Indicators: .... Power ON/OFF, Transmit (XMIT) ON/OFF

Power Switch (ON/OFF): .... SPST Toggle Switch

ANALOG AUDIO & VIDEO MODULATOR

Signal Outputs: .... TNC/BNC - DC, 70 MHz signal/pass thru,

Level output: .... +2 dbm Analog

Impedance: .... 75 ohms

Auto Detects Signal Inputs: .... Video, Composite/SDI, 70 MHz (–10 dbm Analog)

Video Mute: .... 70 MHz test tone - auto

FM Deviation (Selectable): .... Local and Remote serial control 3 MHz and 4 MHz - peak

Video Input: .... 1 Vpp (75 ohms) 525/625 line

Return Loss: .... > 26 db

Plug in Video Filter Options: .... 4.2 MHz, 5.0 MHz, 5.5 MHz

Video Response: .... +/– .25 db @ or within video filter bandwidth

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Video Performance:

S/N: .... (2/7 GHz) > 68 db (weighted per RS-250C)

S/H: .... (2/7 GHz) > 63 db (weighted per RS-250C)

Diff. Phase: .... 1 degree

Diff. Gain: .... 1 %

Baseband Response: .... 10 KHz-8 MHz +0.5 db 8 MHz- 12 MHz <2db

Audio Channels: .... 4 Channel Analog Line level: +8 dbm (600 ohms) - circular conn.

Subcarrier input tune range: .... 4.5 MHz - 8.59 MHz tunable in 2 KHz steps (local/serial control)

Audio Performance:

Frequency Response ...... d(40 Hz - 15 KHz): .... +/- 1.0 db (40 Hz - 10 KHz): .... +/- 0.5 db

THD: .... 0.5 % @ 1 KHz (75 KHz deviation) 2.0 % @ 1 KHz (200 KHz deviation)

Signal/Noise: .... 68 dbm (min.)

Output Impedence: .... 600 ohms balanced/10K ohms - selectable

Output Level (adjust): .... + 8 dbm - Line Level - nominal (0 dbm to + 18 dbm) - Local/serial

Audio channel crosstalk: .... d60 db

Emphasis: .... 50 us/75 us, flat - jumper selectable

Control Interface: .... 2 wire serial common connector as DC input

Serial Control Parameters: .... Input - video/BB, video level, audio level, subcarrier tuning - preset select

CONTROLS

Front Panel (LCD/Push Button/Rotary Switch)

COFDM Preset Selection: Video bit rate, chroma/profile, SDI or composite, audio channel enable/disable, transport stream output bit rate, Color Bar Test Pattern ON/OFF, manual, auto

Audio Input: Analog/Digital audio encoding ON/OFF (per channel)

Device Manager Software (DMS)

(Control parameters in addition to front panel controls) Latency setting, service name, Control/Monitor/ID Video input: Analog/digital selection, video bit rate, horizontal resolution, delay mode, chroma format, scrambling enable/disable, data channel enable/disable, transport stream output bit rate, Test Pattern ON/OFF

DEVICE MANAGER SOFTWARE REQUIREMENTS

IBM PC Compatible with RS–232 serial port Windows 95 Operating System or Higher with JAVA 1.2
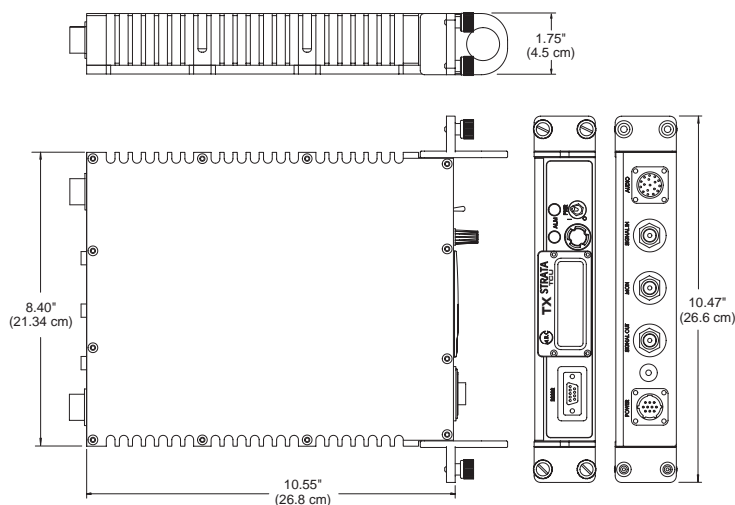
POWER REQUIREMENTS

Input: .... +10.5 to +48 Vdc (Separate AC to DC Power Converter Available)

Power connector: .... 8-Pin circular

Power consumption: .... 24W (Separate AC to DC power module available)

PHYSICAL

Weight: .... 7.0 lbs (3.2 kg)

Operating Temperature Range: .... –20° C to +50° C

Operating Relative Humidity: .... 95% @+10° C to +40° C

Operating Altitude: ..... 15,000 feet above sea level (13,500 meters)

ACCESSORIES

AC to DC Power Converter (100 to 230 Vac Input)

1.75" (4.5 cm)

8.40" (21.34 cm)

10.47" (26.6 cm)

10.55" (26.8 cm)

STRATA

RXU

RECEIVER UNIT

FEATURES

- Portable, Compact, and Lightweight
- Tripod or Rack Mountable (1 RU Half Width)
- Mobile or Airborne Applications
- Integrates with STRATA Receiver Control Unit (RCU)
- Bands from 2 to 15 GHz
- Single or Dual band Pre-Configured Models:
  RXU – Basic Receiver with 70MHz Input
  RXU–F – With FM Video and Audio Demodulator
- Local Control from Front Panel LCD using Single
  -Rotary/Push Button Switch
- RS-232 Remote Control from Laptop using PC with
  Device Manager Software (DMS)
- Multiple Programmable Presets
- Full Compatibility with MRC CodeRunner 2 and
  REPORTER Wireless Transmitter

The STRATA Receiver Unit (RXU) is a compact, lightweight receiver for portable applications. Use the RXU as an end point receiver or as part of a multi-hop system for fixed, mobile, or airborne applications.

The RXU can function as a stand alone receiver or as part of an integrated solution when used with the STRATA Receiver Control Unit (RCU). In addition, the RXU is fully compatible with the MRC CodeRunner 2, or REPORTER, MRC's Wireless Camera Transmitter.

The STRATA RXU can be configured for direct IF Input or analog FM Demodulation featuring full NTSC/PAL compatibility with up to four audio channels.

For local control, use the Front Panel LCD and a single combination Push Button/Rotary Switch. For remote control, plug into the RS-232 port from a Laptop or PC and use the Device Manager Software (DMS). Further, you can save receiver settings as preset configurations to be recalled later.

The RXU's standard "N" type RF connector provides for cabled or direct mounted antennas. The optional Twist Lock Adapter mounts over the RF connector to accept a variety of MRC's Parabolic antennas.

MICROWAVE RADIO
COMMUNICATIONS

RXU SPECIFICATIONS

Band Operation:... Single/Dual Band 2 GHz/7 GHz (with BDC option)
Input Frequency Bands: .... (1.99 GHz to 2.7 GHz)
RF Input Range (2 Ghz): .... –25 dBm to –95 dBm
IF Output: .... 70 MHz
IF/AGC Level Output: .... +0 dBm (+/– 1 dB) – Analog
.... –10 dBm (+/– 1 dB) – Digital
Stability (RF-IF):.. +/- 2.5 ppm
Dual IF Filter Bandwidths Options: 1) 10 MHz SAW/10 MHz L/C
                                     2) 10 MHz SAW/15 MHz L/C
                                     3) 10 MHz SAW/20 MHz L/C
                                     4) 18 MHz SAW/20 MHz L/C
IF Linearity (IMR): .... >40 dB @ 70 MHz
Squelch Adjust: .... ON/OFF Level (25 dB from threshold)

FRONT PANEL CONTROLS

Channel Frequency, Preset, Receive Carrier Level, IF Filter Select
Analog/Digital

DEVICE MANAGER SOFTWARE (DMS)

(Requires RS-232 Port with JAVA V1.2)
Channel Frequency, Preset, Subcarrier Frequency, IF Filter,
Video Level, Audio Level, Squelch, Baseband/Composite Output,
Receiver Carrier Level, Analog/Digital (when used with Digital TCU)
FM Audio and Video:
Output, Video/Baseband, Video Level, Audio Level, Subcarrier Tuning

OPTIONS

AC to DC Power Converter (100 to 230 Vac)
Antennas
Parabolic Dish (2/4 ft)
MegaHorn
MRC Central Receive Steerable and Sectorized Antennas
Twist Lock Adapter (Omnidirectional or Parabolic)

CONNECTIONS, CONTROLS, AND INDICATORS

RF Input: .... "N" Type Connector (50 ohm)
Signal Output: .... BNC
DC Power & RS-485 Remote: .... 8–pin circular connector
RS-232 Communication Port: .... 9–Pin "D" Connector
Audio Output: .... 10-pin circular
IF Output Monitor: .... BNC
All controls:... Push/Rotary Switch
LED Indicators: .... Power (ON/OFF), Alarm (ALM)
Power Switch (On/Off):................................... SPST Toggle Switch

PHYSICAL

Dimensions:....1.75" (4.5 cm), 8.4" (21.34 cm), 10.55" (28.8 cm)
Weight:... 7.0 lbs (3.2 kg)
Operating Temperature Range: .... –20° C to +50° C
Operating Relative Humidity:... 80%
Operating Altitude:..... 15,000 feet above sea level (13,500 meters)
Power Input: .... +10.5 to +48 Vdc
Power Consumption:... 24 Watts

ANALOG AUDIO & VIDEO DEMODULATOR

Level Input:........................... (0 dBm to –2 dBm) 0 dBm nominal
Impedance: .... at 75 ohms
Composite Outputs: .... switched outputs – baseband/video
Video Output:.............................. 1 Vpp (75 ohms) 525 /625 line
Return Loss:.. >26 dB
Plug In Video Filters: .... 4.2 MHz, 5.0 MHz, 5.5 MHz
Video Response:............. +/– 0.25 dB within video filter bandwidth

Video Performance (15 MHz L/C IF Filter):
Signal/Noise (2/7 GHz): .... >68 dB (weighted per RS-250C)
Signal/Hum (2/7 GHz): .... >63 dB (weighted per RS-250C)
Differential Phase:... 1 degree
Differential Gain: 1%
Chroma/Luminance Gain: 4%
Chroma/Luminance Delay:... +/– 20 nS
Threshold (2 GHz): .... –87 dBm @ 37 dB video S/N
Threshold (7 GHz): .... –86 dBm @ 37 dB video S/N
Field Tilt: .... 1 %
Output Level Adjust :.............................. + 3dB to –6dB, squelch
                                  1 Vpp @ 4 MHz peak deviation - nominal
                                  1 Vpp @ MHz peak deviation
Baseband Response:...................... 10 KHz to 8 MHz   +0.5 dB
                                         8 MHz to 12 MHz   < 2dB
Audio Channels: .... Demodulation of 4 Independent Subcarriers
Subcarrier input tune range: .... 4.5 MHz – 8.59 MHz
  tunable in 5 KHz steps (local/serial control) programmable presets

Audio Performance:
Frequency Response:...................... (40 Hz – 15 KHz): +/– 1.0 dB
                                      (40 Hz – 10 KHz): +/– 0.5 dB
Threshold:............................ 0.5 % @ 1 KHz (75 KHz deviation)
                               2.0 % @ 1 KHz (200KHz deviation)
Signal/Noise: ....68 dB (min)
Output Impedance: ....600 ohms balanced/10 K ohms (selectable)
Output Level (adjust): .... +8 dBm – line level – nominal
                                  (0 dBm to +18 dBm) – local/serial
Audio Channel Crosstalk:..60 dB
De-emphasis: ....50 uS/75 uS , flat – jumper selectable

RECEIVER UNIT (RXU) DIMENSIONS

STRATA

RECEIVER CONTROL UNIT

FEATURES

- MPEG 4:2:2/4:2:0, COFDM, and FM Demodulation
- COFDM Bandwidth Selectable (6,7, and 8 MHz)
- Analog/Digital Switchable
- Portable, Compact and Lightweight Design
- Tripod or Rack Mountable (1 RU Half Width)
- Mobile or Airborne Applications
- Modular Design Supports Multiple Configurations:
  RCU–F   FM Demodulator
  RCU–M   MPEG Decoder
  RCU–CM   COFDM and MPEG
  RCU–CMF Switchable between COFDM/MPEG
             and Analog FM Demodulator
- Local Control from Front Panel LCD using Single Rotary/Push Button Switch
- RS-232 Remote Control from Laptop or PC with Device Manager Software (DMS)
- Stores Multiple Preset Configurations

The STRATA Receiver Control Unit (RCU) is a versatile portable solution providing both analog or COFDM demodulation and digital decoding. The RCU can function as a stand alone unit or as part of an integrated solution with the STRATA Receiver Unit (RXU).

The RCU comes in several configurations with single or combined features including FM Demodulation, MPEG Decoding, MPEG Decoding with COFDM Demodulation, or switchable between MPEG/COFDM and FM Demodulation.

STRATA offers several solutions for local and remote control operation. For local control, use the Front Panel LCD and a single combination Push Button/Rotary Switch. For remote control, plug into the RS-232 port from a Laptop or PC and use the Device Manager Software (DMS).

MICROWAVE RADIO
COMMUNICATIONS

CONNECTORS, CONTROLS AND INDICATORS

Signal Input:.. TNC/BNC
Signal Output: .... TNC/BNC
Monitor:.. TNC/BNC
DC Power & RS-485 Remote: .... 8–pin circular connector
All controls:.. Push/Rotary Switch
LED Indicators:................ Power ON/OFF, Transmit (XMIT) ON/OFF
Power Switch (On/Off):..................................... SPST Toggle Switch
RS-232 Communication Port:........................ 9–Pin "D" Connector

CONTROLS

Front Panel (LCD/Push Button/Rotary Switch)
Channel Frequency, Preset, Analog/Digital Mode, Subcarrier
Frequency Select, IF Filter Select, Video Level Adjust, Audio Level
Adjust, Squelch Adjust, Baseband or Composite Output Select

Device Manager Software (DMS)
(Control parameters in addition to front panel controls)
Bandwidth, COFDM Lock, Pre-Viterbi, Bit Error Rate (BER), Channel
Signal-to-Noise Ratio

POWER REQUIREMENTS

Input: .... +10.5 to +48 Vdc
(Separate AC to DC Power Converter Available)
Power connector:.. 8-Pin circular
Power consumption: 24W
(Separate AC to DC power module available)

DEVICE MANAGER REQUIREMENTS

IBM PC Compatible with RS–232 serial port
Windows 95 Operating System or higher with JAVA V1.2

PHYSICAL

Weight:.. 7.0 lbs (3.2 kg)
Operating Temperature Range: .... –20º C to +50º C
Operating Relative Humidity: .... 95% @+10º C to +40º C
Operating Altitude:..... 15,000 feet above sea level (13,500 meters)

ACCESSORIES

AC to DC Power Converter (100 to 230 Vac Input)

ANALOG AUDIO & VIDEO DEMODULATOR

Level Input:............................ (0 dBm to –2 dBm) 0 dBm nominal
Impedance:.. 75 ohms
Composite Outputs: .... switched outputs – baseband/video
Video Output:................................ 1 Vpp (75 ohms) 525 /625 line
Return Loss:.. >26 dB
Plug In Video Filters: .... 4.2 MHz, 5.0 MHz, 5.5 MHz
Video Response: .... +/– 0.25 dB @ within video filter bandwidth
Video Performance (15 MHz L/C IF Filter):
Signal/Noise: (2/7 GHz) .... >68 dB (weighted per RS-250C)
Signal/Hum: (2/7 GHz) .... >63 dB (weighted per RS-250C)
Differential Phase:.. 1 degree
Differential Gain: 1%
Chroma/Luminance Gain: 4%
Chroma/Luminance Delay: .... +/- 20 nS
Threshold (2 GHz): .... –87 dBm @ 37 dB video S/N
Threshold (7 GHz): .... –86 dBm @ 37 dB video S/N
Field Tilt:... 1 %
Output Level Adjust: .... + 3dB to –6dB, squelch
1 Vpp @ 4 MHz peak deviation - nominal
1 Vpp @ MHz peak deviation
Baseband Response:..................... 10 KHz to 8 MHz   +0.5 dB
8 MHz to 12 MHz   < 2dB
Audio Channels: .... Demodulation of 4 Independent Subcarriers
Subcarrier input tune range: .... 4.5 MHz to 8.59 MHz
tunable in 5 Khz steps (local/serial control) programmable presets

Audio Performance:
Frequency Response:...................... (40 Hz – 15 KHz): +/– 1.0 dB
(40 Hz – 10 KHz): +/– 0.5 dB
Threshold:............................ 0.5 % @ 1 KHz (75 KHz deviation)
2.0 % @ 1 KHz (200KHz deviation)
Signal/Noise: .... 68 dB (min)
Output Impedance: ...... 600 ohms balanced/10 K ohms (selectable)
Output Level (adjust): .... +8 dBm – line level – nominal
(0 dBm to +18 dBm) – local/serial
Audio Channel Crosstalk:..60 dB
De-emphasis: .... 50 uS/75 uS , flat – jumper selectable

CODFM DEMODULATION

IF Input: ....70 MHz
Input Range: .... –10 dBm nominal, (–10 dBm to –12 dBm)
Bandwidth (Selectable): .... 6 MHz, 7 MHz, 8 MHz
Threshold:...................C/N-within 2 dB of ET51 300 744 Standard
COFDM Acquisition Speed:...............................100 Msec (typical)
Modulation Type: .... QPSK, 16QAM, 64QAM
Transport Stream Output: .... DVB-ASI
Packet Length:... 188 bytes
Forward Error Correction (FEC):.................. 1/2, 2/3, 3/4, 5/6, 7/8
Guard Intervals (Selectable): 1/32, 1/16,1/8,1/4

MPEG DECODER

Video Decoding: ....Auto Detect Decoding
Chroma Profile: 4:2:2/4:2:0
Line Standard:... 526/625
GOP Structures...Variable GOP
Horizonal Resolution: ....720, 704, 544, 352 Selectable
Vertical Resolution: ....576 (625 line), 480 (525 line)
Bit rates:..................................... 4:2:0 – 1.5 Mbits – 15 Mbits
4:2:2 – 2.0 Mbits – 50 Mbits
Audio Decoding: .... Auto detect decoding
Type: .... MPEG I layer
Bit Rates:... 32 to 448 Kbits/s
Sampling:... 32 KHz and 48 KHz
Composite Video Output:..................... NTSC(w/wo pedestal)/PAL I
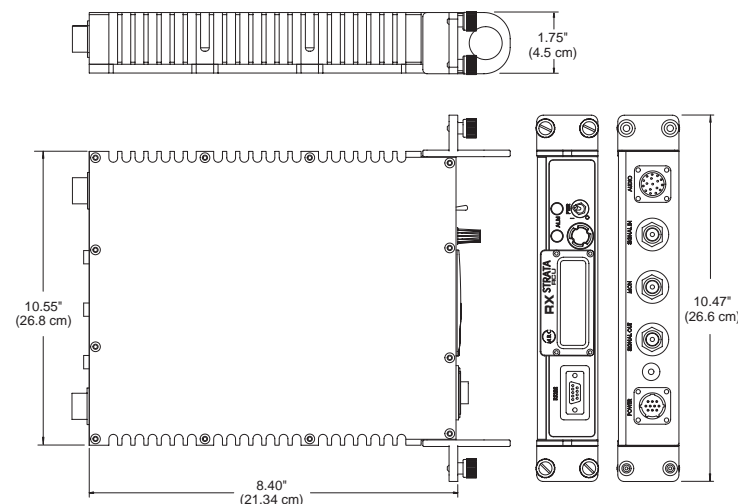
Receiver Control Unit (RCU) Dimensions

STRATA

FEATURES

- Portable, Compact, and Rugged Design
- Integrates with STRATA Transmitter Unit (TXU) and STRATA Transmitter Control Unit (TCU)
- Single Cable Connection to the Transmitter Unit (TXU)
- Models for Outside Broadcast or ENG Applications
- Tripod and Rack Mount with Integrated STRATA Units
- Separate HPU from TXU from up to 100 feet for Mast or Pole Mount.

The STRATA High Power Unit (HPU) provides additional power output for the STRATA Transmitter Unit (TXU). The HPU connects to the TXU through a single cable carrying RF, power, and control data.

The HPU is offered in two models. The HPU-OB model can be mounted as part of an integrated stack with the STRATA Transmitter Unit (TXU) and STRATA Transmitter Control Unit (TCU). For ENG applications that require separation of the HPU from the TXU, the HPU-ENG model is equipped with a built in AGC circuit that allows separation of up to 100 feet.

The HPU's standard "N" type RF connector provides for cabled or direct mounted antennas. The optional Twist Lock Adapter mounts over the RF connector to accept a variety of MRC's Parabolic or MegaHorn antennas.

MICROWAVE RADIO
COMMUNICATIONS

MODELS

HPU-OB
DC Input Range ....+11 Vdc to +48 Vdc
through Type N RF input (rear)
Control Input: .... RF connector via RS 485 connector on TXU

HPU-ENG (Includes RF AGC Circuit)
DC Input Range .... +11 Vdc to +48 Vdc
through Type N RF input
Control Input: ....RF connector via RS 485 connector on TXU

OUTPUT POWER

1.9 to 2.7 GHz
Saturated Power Output (Analog Mode)......................... +41 dBm
Power Output (QPSK Mode).. +37 dBm
Power Output (16QAM Mode) .... +36 dBm

6.4 to 7.1 GHz
Saturated Power Output (Analog Mode)......................... +36 dBm
Power Output (QPSK Mode).. +34 dBm
Power Output (16QAM Mode) .... +32 dBm

(For other frequency bands, contact MRC)

ANTENNA OPTIONS
Omni-Directional Antenna
MegaHorn
Parabolic Dish – 2ft/4ft
Twist Lock Antenna Mount (MegaHorn or Parabolic)
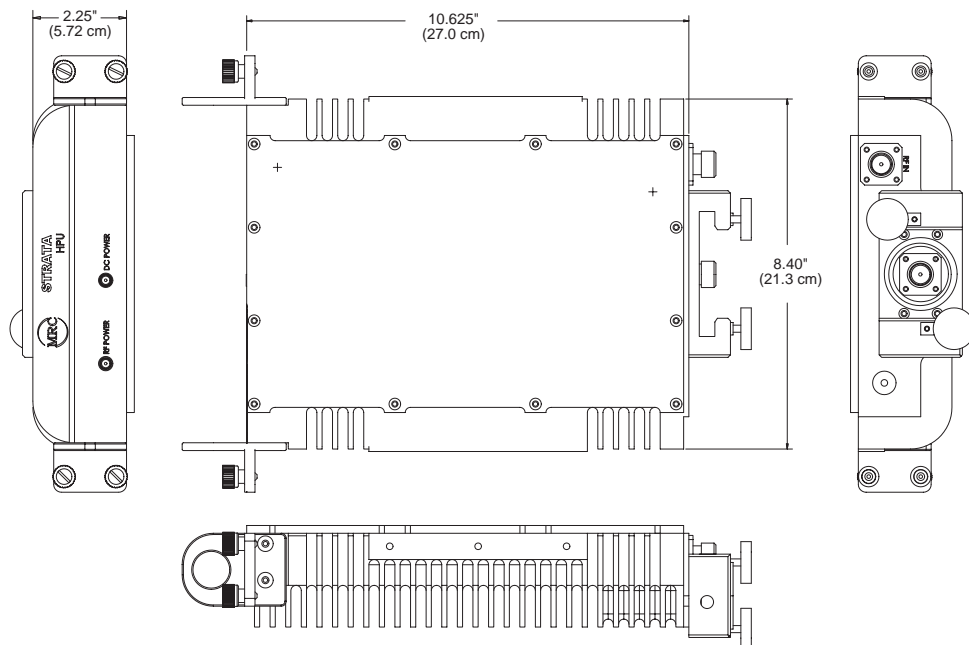
CONNECTORS, CONTROLS AND INDICATORS
LED Indicators........................... DC Power, RF Power (Front Panel)
RF Input .... "N" Type Connector
(RF, Power, and Controls from TXU)
RF Output.. "N" Type Connector

PHYSICAL
Dimensions (without mounting brackets):
10.5" (L) x 8.5 " (W) x 2.5 " (H)
Weight .... 9.6 lbs.
Operating Temperature Range .... −20º C to +50º C
Operating Relative Humidity .... 95% @+10º C to +40º C
Operating Altitude...... 15,000 feet above sea level (13,500 meters)

High Power Unit with Twist Lock Antenna Mount

2.25"
(5.72 cm)

10.625"
(27.0 cm)

8.40"
(21.3 cm)

HIGH POWER UNIT (HPU) DIMENSIONS